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EXAMINER

CHANNAVAJJALA, S

ART UNIT

PAPER NUMBER

2177

DATE MAILED:

02/07/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/369,327

Applicant(s)

IWATA ET AL.

Examiner

Srirama Channavajjala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 36-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 36-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

1. Applicant's request for reconsideration of the rejection of the last Office action is persuasive and, therefore, the rejection of that action, **paper no. # 4 is withdrawn.**
2. The preliminary amendment [paper no. # 2] filed on 8/6/1999 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on Application No. 08/918,106, filed on 8/27/97 is established. The parent Application No. 08/918,106, filed on 8/27/97 is now US Patent No. **5940289.**
3. Examiner acknowledges the applicant's amendment and supplemental response filed on November 20, 2000, paper no. # 6-7,
4. Claims 1-35 have been canceled, paper no. # 2.
5. Claims 36-48 have been added, paper no. # 2.
6. Claims 49-53 have been added, paper no. # 6

Drawings

7. The Drawing filed on 8/6/1999, are objected to by the Draftsperson under 37CFR 1.84 or 1.152. [see PTO-948, paper no. # 4].

Priority

8. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 08/918,106, filed on 8/27/1997. [Japanese Patent Application No. 226406 filed on August 28, 1996].

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what is meant by "a second connected", examiner assumes it should be "a second **server** connected", and it is treated as "a second **server** connected" in the office action. Appropriate correction required.

10. Claims 50-53 are rejected as being dependent on Claim 49 and failing to resolve the basis of the rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

11. Claims 36-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Lin et al., [hereafter Lin], US Patent No. 5590321.

12. As to Claims 36, 43-44, Lin details a system which including 'database system' [see figs. 1-2, more specifically, element 102 is a heterogeneous distributed database system], 'inputting a query including a retrieval part retrieving a database based on a search condition' [see fig 3, element 310, fig. 4, element 410, more specifically fig 3, element 310 is an example of receive query to be equivalent to inputting a query], examiner interpreting Query is an inherent aspect of Lin's teachings because Lin specifically teaches for example SQL, also SQL concepts are well known in the art, see col 3, line 54-63, 'search conditions' to be equivalent to Lin's SQL query for example see Table 1, col 7, line 45-52, line 60-67; 'retrieving said database based on said search condition and holding position information of said retrieved data' [col 7, line 3-18, line 54-67], 'referencing said retrieved data used said position information from said database and operating said retrieved data' [col 8, line 35-47], examiner interpreting referencing, position information of a database is inherent aspect of Lin's

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teachings, because Lin specifically teaches function vector(s) in relationship with the query or sub-query(s) and function vectors are checked against the function for a specific database instance for example fig. 2, element 110, therefore, referencing and position information is inherent aspect of Lin's invention, see col 9, line 29-35.

'plurality of servers' to be equivalent to Lin's fig 1, elements 108A-108C, col 5, line 48-51, 'network' to be equivalent to Lin's fig 2, element 238.

13. As to Claim 37, Lin details a system which including 'retrieved data is constituted by a plurality of partial data and each said partial data is defined by a name and data type declaration' [col 4, line 38-45, col 10, line 32-44, line 54-65], examiner interpreting partial data is inherent aspect of Lin's teachings because Lin teaches not only queries but also executing sub-queries, partial data to be equivalent to Lin's sub-query(s), for example as detailed in col 7, line 65-67, col 8, line 1-6, see col 10, line 55-58; data defined by name and data type declaration are inherent aspect of Lin's teachings because, Lin teaches SQL as detailed in table 1, col 7, line 45-53, more specifically, data type(s) are well know in the art for example see table 1, EMPNO, LASTNAME, WORKDEPT etc., also examiner notes that Lin teaches executable commands from a set of high level SQL commands are well known in the art, see col 9, line 64-67, i.e., the combination of data and code into a type definition is similar to the programming language concepts of abstract data types are well known in the art. Therefore, defining data name and data type declaration are inherent aspect of Lin's teachings.

14. As to Claim 38, Lin details a system which including 'partial data is extracted from said retrieved data' [col 7, line 65-67, col 8, line 1-6, see col 10, line 55-58], examiner interpreting partial data to be equivalent to Lin's sub-query(s), for example as detailed in col 7, line 65-67, col 8, line 1-6.

15. As to Claim 39, Lin details a system which including 'partial data is stored as part of said retrieved data' [col 6, line 38-42, line 45-48, line 55-59, col 7, line 38-45].

16. As to Claim 40, Lin details a system which including 'partial data of said retrieved data is replaced by another partial data' [col 9, line 29-49].

17. As to Claim 41, Lin details a system which including 'partial data of said retrieved data is deleted from said retrieved data' [col 9, line 29-49], examiner notes that update, delete are inherent aspect of any SQL statements and/or commands well known in the art, see col 9, line 40-41, line 64-67.

18. As to Claim 42, Lin details a system which including 'retrieved data is defined by a member function which contains processing for said partial data in definition of said retrieved data' [col 10, line 37-59].

19. As to Claims 45-46, Lin details a system which including 'first server retrieves partial data items of said data from said second server based on said position information' [fig 1, elements 108A-108C are plurality of servers, col 4, line 23-27, col 6, line 13-16, line 51-55, col 7, line 25-27, col 8, line 37-47], 'dictionary information concerning locations of said partial data items' [col 9, line 29-35, line 42-45] , identifiers are inherent aspect of Lin's teachings because Lin suggested to use for example tables, catalog and index, see col 9, line 44-45, examiner interpreting dictionary to be equivalent to Lin's catalog, indexes, pointers and identifiers are well known in the art, for example in order to fast retrieval of records in search key or identifier order, records are chained together by pointers in a index structure, index schemes require to access an index structure to locate data, allows to find the address of a data item directly by computing a function on a identifier or search key value of the specific record.

20. Claims 49-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Carino, Jr. [hereafter Carino], US Patent No. 5754841.

21. As to Claim 49, Carino details a system which including 'a database system' [see fig. 2, col 4, line 10-13], 'a plurality of first servers which operate a database and which retrieve data from said database' [col 5, line 7-15, line 38-44], examiner interpreting database to be equivalent to Carino's RDBMS, fig 2, element 210, servers to be equivalent to fig 2, elements 212, 214, and 216; 'a second server connected to said first sever' [see fig. 2, server 212, 214, and 216 are connected though element 250 and all connected to the virtual network, element 208]; 'control and analyzes queries about said database, including a data retrieval query to retrieve data from selected ones' [col 5, line 20-24, col 5, line 58-65, col 9, line 14-18], examiner interpreting analyzing, retrieving data are inherent aspect of Carino's teachings because, Carino teaches specifically using RDBMS and SQL-3, see col 5 line 20-29; 'first servers, and a sub-data utilization query to retrieve only selected sub-data items from said data retrieved from a database' [col 7, line 55-60, 63-67, col 8 line 1-12], examiner interpreting selecting sub-data is inherent aspect of Carino's invention because, Carino teaches specifically SQL-3, used for querying and/or retrieving specific sub-data is well known in the art.

22. As to Claim 50, Carino details a system which including 'database operation contains sub-data items corresponding to attributes of an Abstract Data Type (ADT)' [col 10 line 58-67, col 11, line 23-31].

23. As to Claim 51, Carino details a system which including 'second server retrieves said sub-data items of said data from said selected ones of the first servers based on location information' [col 7, line 55-60, 63-67, col 8 line 1-12], examiner interpreting selecting sub-data is inherent aspect of Carino's invention because, Carino teaches specifically SQL-3, used for querying and/or retrieving specific sub-data is well known in the art., 'dictionary information concerning locations of said sub-data items within said data and sub-data identifiers ' [col 8 line 13-22, line 23-32], examiner interpreting dictionary information to be equivalent to Carino's Global data dictionary-GDD, element 313.

24. As to Claim 52, Carino details a system which including 'location information comprises an identifier of said selected ones of said first servers having retrieved said data and an address of said data' [col 17, line 24-26, line 43-45].

25. As to Claim 53, Carino details a system which including 'dictionary information of locations of said sub-data items within said data comprises offset values representing locations' [col 8 line 33-38], examiner interpreting dictionary information to be equivalent to Carino's Global data dictionary-GDD, element 313.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

26. Claims 47-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin et al., [hereafter Lin], US Patent No. 5590321 as applied to claim 44 above, and further in view of Lomet, US Patent No. 5806065.

27. As to Claim 47, Lin details a system which including 'servers' see fig. 1, elements 108A-108C, also details database instances fig 1, elements 110A-110F are connected though the network, element 238, therefore, identifier of an individual server(s) are inherent aspect of Lin's teachings, however, Lin does not specifically detail 'data and an address'. Lomet details a system which including data and an address of said data within said server' [see col 1, line 47-52, col 9, line 27-33, line 51-53, line 61-67].

It would have been obvious one of the ordinary skill in the art at the time of the applicant's invention to combine the concepts taught by Lomet with the system of Lin because retrieved data with the specific address or location allows users to specifically update a particular data or data(s) , also ensures the proper access to the data in a heterogeneous distributed multi-database system as detailed [see Lin fig 1-2], bringing the advantages of multi-processing, quicker response and greater responsibility to distributed data management system [see Lomet col 10 line 24-28], improving the reliability and versatility of the system.

28. As to Claim 48, Lin details a system which including 'dictionary information of location ' [col 9, line 42-45], examiner interpreting dictionary to be equivalent to Lin's catalog, indexes, pointers and identifiers are well known in the art, for example in order to fast retrieval of records in search key or identifier order, records are chained together by pointers in a index structure, index schemes require to access an index structure to locate data, allows to find the address of a data item directly by computing a function on a identifier or search key value of the specific record, 'partial data items with in said data' [col 10, line 40-43, line 54-57], examiner interpreting partial data items are the result of Lin's subqueries. Lomet details more specifically database element 60 in a tree index file structure element 62 having data nodes element 64 as detailed in col 9, line 51-53, examiner interpreting clustered within said data to be equivalent to Lomet's tree index file structure, also Lomet details data page in a memory with pointer to the addresses as detailed in col 9, line 61-67.

Response to Arguments

29. In view of the Applicant's arguments and REMARKS with respect to Claims 36-48 have been considered, Examiner has withdrawn office action, paper no. # 4, and a non-final office action, paper no. # 8 has been made to the record.

Conclusion

The prior art made of record

- a. US Patent No. 5754841
- b. US Patent No. 5590321
- c. US Patent No. 5806065

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

- d. US Patent No. 5878409
- e. US Patent No. 5999924
- f. US Patent No. 5729730
- g. US Patent No. 5940289
- h. US Patent No. 5930800
- i. Lai F. Et al., A new general purpose parallel database system,
IEEE 1997
- j. Welch, L.R. A parallel virtual machine for programs composed of
Abstract data types, IEEE , 1994.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srirama Channavajjala whose telephone number is (703)308-8538. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM Eastern time.

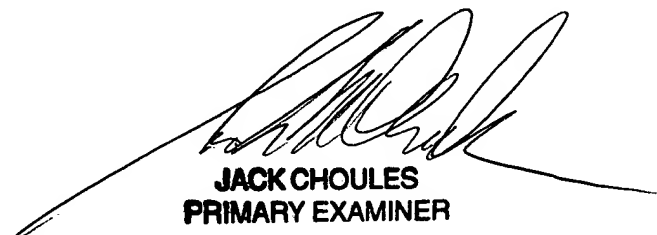
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703)305-9790. The fax phone number for this Art Unit is (703)308-6606.

Any inquiry of general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)305-9600.

CS



February 1, 2001.



JACK CHOULES
PRIMARY EXAMINER